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REMARKS

Claims 1 – 20 are pending in the present Application. Claim 4 has been cancelled and Claims 1 – 3 and 5 – 9 have been amended, leaving Claims 1 – 3 and 5 – 20 for consideration upon entry of the present Amendment. No new matter has been introduced by these amendments. Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Claim Rejections Under 35 U.S.C. § 112, Second Paragraph

Claims 11, 13 and 14 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. (Office Action dated 02/24/2005, page 2)

In particular, the Examiner has stated that “[i]t is unclear what definition is given to percent stress retention and percent haziness.” (Office Action dated 02/24/2005, page 2)

Applicants respectfully disagree. The terms “percent stress retention” and “percent haziness” are well known to persons of ordinary skill in the art of polymer engineering and science. Both terms are generally introduced to students taking introductory level polymer courses.

Percent stress retention is a well-known term of art in polymer science and is measured in a stress relaxation test. In general, in a stress relaxation test, the sample is stressed by subjecting it to a desired level of strain. The original stress is first measured at the given strain. Stress is defined as the force applied per unit area. While the applied strain on the sample is maintained, the stress in the sample is measured at different time periods. The ratio of the stress at a given time period to the original stress is termed the percent stress retention.

A detailed description of a percent force retention test is given in paragraph [0090] and [0091] of the specification and one of ordinary skill in the art upon reading these paragraphs in the instant specification would be able to perform the test to determine the metes and bounds of Claims 11, 13 and 14. As noted above, if the measured force is divided by the cross sectional area of the test sample, the result can be expressed as percent stress retention.

The MPEP in section 2173.05(b) states that “[a]cceptability of the claim language depends upon whether one of ordinary skill in the art would understand what is claimed, in

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light of the specification.” Since one of ordinary skill in the art would understand the term “percent stress retention” and further since the specification clearly indicates how the percent stress retention test is performed, Applicants respectfully request a withdrawal of the § 112, second paragraph rejection and an allowance of the Claims 11 and 14.

Similarly, the term percent haze is well known to one of ordinary skill in the art and is determined by the measurement of light passing through a section of the film, e.g., generally perpendicularly through the top and bottom surfaces rather than edgewise. In the practice of the present invention, a Gardner Laboratory Haze Meter, a commercially available device of Gardner Laboratory Corporation, Bethesda, Md., was employed. The Haze Meter directs light through the film and measures the intensity entering the film. Values obtained from the Haze Meter are given in terms of percent haziness of the film. The test method employed is the standard American Society for Testing Materials, Test ASTM-D1003, a copy of which is enclosed for reference by the Examiner. The use of the test method is mentioned in paragraph [0092] of the instant specification.

In summary, since both the “percent stress retention” and the “percent haze” are described in the specification and since these descriptions permit one of ordinary skill in the art to assess the values claimed in Claims 11, 13 and 14, Applicants respectfully request a withdrawal of the § 112, second paragraph rejection and an allowance of the claims.

Claim Rejections Under 35 U.S.C. § 102(b)

Claims 1 – 3, 10 and 15 – 18 stand rejected under 35 U.S.C. § 102(b), as allegedly anticipated by U.S. Patent No. 6,183,248 to Chishti et al. (Chishti). (Office Action dated 02/24/2005, page 2) Applicants respectfully traverse this rejection.

To anticipate a claim, a reference must disclose each and every element of the claim. *Lewmar Marine v. Barient Inc.*, 3 U.S.P.Q.2d 1766 (Fed. Cir. 1987).

Claim 1 as presently amended is directed to an appliance for use in an oral cavity, wherein the appliance comprises a polymeric shell that has cavities designed to receive teeth, and wherein the shell comprises a thermoplastic polymeric mixture that comprises a polycarbonate and a cycloaliphatic polyester.

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Chishti teaches a polymeric overlay or shell having a teeth-receiving cavity formed therein. (see Abstract) Chishti teaches that the shell comprises at least one layer of polymeric material. (see Claim 1) Chishti discloses that the layer of polymeric material can be a memory polymer, methacrylate containing polymers, acrylate containing polymers, thermoplastic polymers, cross-linked thermoplastic polymers, thermoplastic polymer blends, cross-linked thermoplastic polymer blends, thermoplastic elastomer polymers, and thermoset polymers. (see Claim 6) Chishti further teaches that a layer of the shell can comprise a crosslinked polyester/polycarbonate blend in the Table in Col. 10. (see heading to the Table in Col. 10)

While Chishti teaches that the shell can comprise thermoplastic polymer blends and thermoset polymers including a crosslinked polyester/polycarbonate blend, Chishti does not specifically teach a shell that comprises a thermoplastic polymeric mixture that comprises a polycarbonate and a cycloaliphatic polyester as presently claimed. For this reason at least Chishti does not teach all elements of the claimed invention and therefore cannot anticipate the claimed invention. Applicants respectfully request a withdrawal of the § 102(b) rejection over Chishti and an allowance of Claims 1 – 3, 10 and 15 – 18.

Claims 19 and 20 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Application No. 5,975,893 to Chishti et al. (Chishti '893). (Office Action dated 02/24/2005, page 3) Applicants respectfully disagree.

Claim 19 as presently amended is directed to a method for maintaining or repositioning teeth in the oral cavity comprising placing an appliance in a patient's mouth, wherein the appliance comprises a polymeric shell having cavities designed to receive teeth, and wherein the appliance that comprises a polymeric mixture, and further wherein the polymeric shell has cavities designed to receive teeth, that comprises a polycarbonate and a cycloaliphatic polyester.

Chishti '893 teaches a system for repositioning teeth comprises a plurality of individual appliances. (see Abstract) Chishti '893 teaches that the appliances are configured to be placed successively on the patient's teeth and to incrementally reposition the teeth from an initial tooth arrangement, through a plurality of intermediate tooth arrangements, and to a final

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tooth arrangement. (see Abstract) While Chishti '893 describes that the appliances comprise a polymeric shell (see Claim 12) and further discloses that the polymeric shell is preferably formed from a thin sheet of a suitable elastomeric polymeric, such as Tru-Tain, commercially available from Tru-Tain Plastics, Rochester, Minn. 55902, Chishti '893 does not teach a shell that comprises a polymer mixture that comprises a polycarbonate and a cycloaliphatic polyester.

For this reason at least Chishti '893 does not teach all elements of the claimed invention and therefore specifically cannot anticipate Claims 19 and 20. Applicants respectfully request a withdrawal of the § 102(b) rejection over Chishti '893 and an allowance of Claims 19 and 20.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 4 – 9 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Chishti in view of U.S. Patent No. 4,894,012 to Goldberg et al. (Goldberg) (Office Action dated 02/24/2005, page 3) Applicants respectfully traverse this rejection.

In making the rejection, the Examiner has stated that “Goldberg et al teach a dental appliance comprising polycarbonate and a cycloaliphatic polyester.” (Office Action dated 02/24/2005, page 3) The Examiner further has stated that “[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the appliance of Chishti et al. to have the material of Goldberg et al.” (Office Action dated 02/24/2005, page 3)

The Examiner has also stated that “[c]laims 11 – 14 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Chishti.” (Office Action dated 02/24/2005, page 4)

In making the rejection, the Examiner has stated that “[i]t would have been an obvious matter of choice as to the specific value or range of values of a property of the mixture in that it has not been defined and/or its criticality has not been described as it pertains to the claimed invention.” (Office Action dated 02/24/2005, page 4)

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a *prima facie* case of obviousness, i.e., that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally

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available in the art at the time of the invention, contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

As noted above, Chishti does not specifically teach a shell that comprises a thermoplastic polymeric mixture that comprises a polycarbonate and a cycloaliphatic polyester as presently claimed. Additionally, since Chishti does not teach a thermoplastic polymeric mixture that comprises a polycarbonate and a cycloaliphatic polyester, it does not teach the properties as claimed in Claims 11 – 14 and therefore does not teach all elements of the claimed invention.

Goldberg teaches a fiber-reinforced composite material for use in a dental appliance. (see Abstract) Goldberg teaches that the fiber-reinforced composite material comprises a polymeric matrix and a reinforcing fiber component embedded within the matrix. (see Col. 5 lines 58 – 61) Goldberg discloses that the polymeric matrix material is selected from the group consisting of polyamides, polyesters, polyester glycols, polyolefins, polyimides, polyarylates, polyurethanes, polyarylsulfides, styrene acrylonitrile, acrylonitrile-butadiene-styrene copolymers, polysulfones, polyacetals, polycarbonates, vinyl esters, and epoxies. (see Claim 11) Goldberg does not teach mixtures of the aforementioned polymers as claimed by the Examiner. (Office Action dated 02/24/2005, page 4)

More specifically, Goldberg does not teach a thermoplastic polymeric mixture that comprises a polycarbonate and a cycloaliphatic polyester. Goldberg therefore does not make up for the deficiency of Chishti and the combination of Chishti with Goldberg would not allow one of ordinary skill in the art to arrive at the claimed invention.

It is also submitted that there is no motivation for one of ordinary skill in the art to combine Chishti with Goldberg. Since neither Chishti nor Goldberg teaches a shell that comprises a thermoplastic polymeric mixture that comprises a polycarbonate and a cycloaliphatic polyester, one of ordinary skill in the art would not seek to combine these

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references.

In summary, the combination of Chishti with Goldberg does not teach all elements of the claimed combination and combining the two references in the manner made by the Examiner would not produce the claimed invention. Applicants therefore request a withdrawal of the obviousness rejection and an allowance of the claims over Chishti in view of Goldberg.

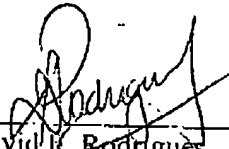
Further with regard to Claims 11 – 14, since Chishti does not teach all of the claimed elements, one of ordinary skill would not find any motivation in Chishti to produce a shell having the properties claimed in Claims 11 – 14. Applicants therefore request a withdrawal of the obviousness rejection and an allowance of the claims over Chishti.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance are requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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